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АКТУАЛЬНІ ПИТАННЯ ТЕОРЕТИЧНОЇ ТА ПРАКТИЧНОЇ МЕДИЦИНИ

Topical Issues of Clinical and Theoretical Medicine

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CHILDHOOD MALNUTRITION IN NAMIBIA

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2012 Nutrition country profile. HDI ranking: 128th out of 182 countries, Life expectancy: 61 years, Life time risk of maternal death: 1 in 1702 Under-five mortality rate: 42 per 1,000 live births, Global ranking of stunting prevalence: 56th highest out of 136 countries. Over one-third of child deaths are due to under nutrition mostly from increased severity of disease. Children who are undernourished between conception and age two are at high risk for impaired cognitive development, which adversely affects the country's productivity and growth. Survey in 2012 shows 29% of children under the age of five are stunted, 17% are underweight, 8% are wasted and 16% of infants are born with a low birth weight.

Comparison with Ukraine. The most recent MICS survey in 2012 did not have data on wasting among children, but it is expected that between 2000 and 2012, the percentage of wasted children did not deteriorate substantially as economic situation in Ukraine remained approximately the same during this period, with exception of 2008-2009 crisis where there might have been a slight chance in the nutritional situation deterioration. As per the pre-crisis data, the prevalence of wasting was far below the 5% acceptable rate by WHO.

Solutions to eliminate malnutrition. Increase nutrition capacity within the Ministries of Health and Agriculture. Improve infant and young child feeding through effective education and counseling services. Implement multiple solutions to tackle anemia including deworming and multiple micronutrient sachets for young children, and iron supplementation for pregnant women. Achieve universal salt iodization. Improve dietary diversity through promoting home production of a diversity of foods and market and infrastructure development.

PECULIARITIES OF SICKLE CELL ANEMIA IN PATIENTS WITH MALARIA IN AFRICA

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Background. Sickle cell anemia is an autosomal recessive disease caused by a single point mutation in nucleobase sequence of chromosome 11 with substitution of glutamic acid by valine and formation of HbS is widespread in mainly African countries with prevalence of 20% - 30% in Cameroon, Republic of Congo, Gabon, Ghana, Nigeria and 45% in Uganda. Malaria on the other hand is an infection caused by a parasite (*Plasmodium* sp.) that is transmitted to humans by female anopheles mosquito and is prevalent in tropical and subtropical regions of Africa due to increased rainfall, constant high temperatures and high humidity.

Aim. To understand the peculiarities of sickle cell anemia in patients with Malaria in Africa.

Materials and Methods: About 356 articles and epidemiological studies have been studied.

Results: According to the literature data Translocation of Sickle cell Erythrocyte MicroRNA into *Plasmodium falciparum* inhibits parasite translocation and contributes to Malaria resistance as individuals with three microRNAs (miR-223, miR-451, let-7i) that are effective in reducing *P.falciparum* growth and replication and the later two are increased in HbAS and HbSS than in HbAA individuals, giving HbSS and HbAS individuals genetic advantage. Heterozygous for sickle cell gene (AS) are relatively protected against severe form of malaria as *P.falciparum*-infected red cells sickle preferentially and then removed by macrophages while homozygous for sickle cell gene (SS) suffer from severe form of malaria due to severe anaemia and hyposplenism in SCA with reduced clearance of parasites.

Conclusion. From the above research, it can be deduced that HbAA individuals with SS gene are at a higher risk of being predisposed to severe forms of malaria as compared to HbAS and Hb SS individuals with AS gene.